m/027/007

JUMBO MINING COMPANY

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August 6, 1996
File: DWQ08066

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Re: Response to letter dated July 12, 1996

1) GROUND WATER: I reviewed the definitions of "aquifer", "ground water", and "waters of the state" as spelled out in R317-6, Utah Administrative Code, as you have suggested. After reading these, it is clear to me that the meaning and intent of these regulations is aimed at a ".....formation that contains sufficiently saturated permeable material to yield usable quantities of water to wells and springs". Otherwise the definitions could apply to almost anything that contained moisture of any sort, including cow droppings!

It should be clear to everyone concerned that there is no known formation in the vicinity of the Drum Mine which will yield usable quantities of water to wells and springs. This statement is based on the results from many HUNDREDS of test wells at locations extending for miles around the subject heaps. Further, we are submitting herewith a copy of the Preliminary Report on HELP Simulations of Existing Heap Leach Pad at Drum Mine by Dr. Evert C. Lawton, which models a worst case scenario, and again demonstrates the improbability of any contamination (if there were any significant contaminants coming from the heaps, to start with) of ground water (if there were any ground water within 1000 feet below the heaps, such as we have not found, even with drill holes as deep as 1500 feet lower in elevation than the bottom of the heaps.)

In addition, I find, under "Waters of the State" a limiting exception which might well apply to our situation: 1.39: .."Waters of the State.....except bodies of water confined to and retained within the limits of private property, and which do not develop into or constitute a nuisance or a public health hazard, or a menace to fish and wildlife, shall not be considered to be 'waters of the State' under this definition." Please consider that our mining lease from the USBLM gives us many of the attributes of private property, and that there is no evidence whatsoever that there has been any discharge anywhere near to the boundaries of the mining leases, much less any nuisance or hazard to people, fish, or wildlife.

2) PRESENCE OF CYANIDE in perched water table: It is important to understand that the traces of cyanide which we discovered in the perched water table shortly after we took over the property could only have come from the prior operations by Western States Minerals Corp. Subsequent to our take over of the property at the end of 1988, no leaching of any of the heaps which were suspected of leaking occurred, and the trace amounts of cyanide and other impurities detected in the test holes steadily decreased. For your ready reference I have attached a copy of a chart sent to you last year, which compares the analytical data from monitoring holes in the perched aquifer in 1991 and 1995. The improvement in the water quality is obvious, and this leads us to the conclusion that, if there has been leakage into this perched water table from the heaps, the leakage may be helping to purify the water in the perched water zone, and certainly is not preventing it from getting better in quality! Instead of degrading the 'waters of the State', these 'waters' have been improved and are continuing to improve!

Let us take your theory that the decrease in impurities might be due to dilution by some unidentified flow into the perched water table, other than leakage from the heaps, and not by the more likely bacterial and other reactions with the soil. Before the small quantity of water in this isolated perched water zone could possibly flow the many miles required to reach any well or spring which could be used by man or beast, the parts per million concentrations of nitrate and salt which remain above water quality standards would predictably be diluted to the point of being unrecognizable in the matrix dilution water.

3) RESOLUTION OF THE PROBLEM:

a) Proper closure of the facility at this time would most certainly NOT be cost-effective! (See attached letter to DOGM dated August 5, 1996 which explains in detail the reasons for this conclusion.)

b) 'Manage (the facility) so that it can be demonstrated that there is no significant discharge of contaminants...' Our position is that this is exactly what we have been doing for the past five years. Meanwhile, we have been doing exploration work to find more gold ore reserves, waiting for lawsuits to resolve reclamation responsibilities, and completing engineering and permitting activities for new heaps and new mining activities. Hopefully all of these activities will lead us to a successful reprocessing of the subject heaps in the near future. We have pulled all buried fuel tanks and otherwise cleaned up all potential hazards on the property left behind by Western. In the interim, the State of Utah is amply protected by reclamation bonds, and, if there is any significant change in environmental quality in the area, this change is demonstrably in the direction of improvement, not degradation!

If your Division will consider the results as being of probative value, we offer to continue our sampling and analysis of these monitoring holes, so that you will have an on-going record of the change in this perched water zone. This, together with the sampling of any run-off from the heaps should provide continuing comfort to all concerned with respect to the impact of the heaps on the 'waters of the State'.

4) CONCEPTUAL PLAN:

You have requested a conceptual plan for a final disposition of the heaps. Although I had assumed that we had provided this information informally during our discussions on the new heap engineering, let me restate this herewith:

> Initially a single new heap would be constructed adjacent to old heap 2HG. This new heap would be sized to accommodate a mixture of newly mined ore as well as the material from old 2HG. After the material from old 2HG was mined, crushed, and stacked on the new heap, a new pad would be constructed on the site of the now empty site of old 2HG. Thus, the new heap would be expanded, and more new ore would be mixed with the crushed material from old 3HG. When old 3HG was depleted, a new pad would be constructed on its site, and additional new ore, plus crushed old material from old 6HG and other old heaps would be added to the expanded new heaps. By this means most of the old heaps would be reprocessed and stacked on newly constructed modern heaps and be subject to final reclamation there. Those old heaps which are not reprocessed would be reclaimed as provided in their original permits. During the reprocessing of the old heaps we will have equipment and ample sampling opportunities to secure material to conduct any Synthetic Precipitation Leaching tests which might be required to satisfy all concerned.

5) OTHER INFORMATION:

I would also like to refer you to the file in general, and to Dave Hartshorn's letter to you dated August 14, 1995 for further detailed information on the chemistry and sampling results on this property, none of which indicate, in our view, any reason for concern about possible ground water contamination.

We trust that the above conceptual plan, together with Dr. Evert's report, and the additional information which we have submitted herewith, is fully responsive to your letter. If we have fallen short in some area of response, please let me know.

Sincerely,

E. B. King

cc: DHartshorn
ZLSamay, Esq.
Rex Rowley, BLM, Filmore
Wayne Hedberg, DOGM

COMPARISON OF ANALYTICAL DATA FROM MONITORING HOLES IN THE PERCHED AQUIFER AT THE DRUM MINE

	MH 7 (1991)	MH 7 (1995)	MH 8 (1991)	MH 8 (1995)
As	0.093	0.006	0.015	<0.005
Cd	<0.005	0.008	<0.005	0.004
Cr	0.240	0.020	<0.005	0.020
Pb	0.310	<0.050	<0.100	<0.050
Hg	<0.0002	<0.001	<0.002	<0.001
Chloride	4,600	3,800	3,720	2,600
Total CN	0.170	0.081	0.210	0.170
WAD CN	NA	0.015	NA	0.026
Nitrate	NA	7.000	NA	13.0
TDS	10,622	8,700	9,730	6,700

	MH 17 (1991)	MH 17 (1995)	MH 33 (1991)	MH 33 (1995)
As	0.012	<0.005	0.037	<0.005
Cd	<0.005	<0.004	<0.005	<0.004
Cr	0.020	0.010	0.090	0.010
Pb	0.028	<0.050	<0.100	<0.050
Hg	0.0006	<0.001	<0.0002	<0.001
Chloride	3,080	1,700	2,500	1,400
Total CN	0.210	0.160	0.440	0.150
WAD CN	NA	0.019	NA	0.011
Nitrate	NA	19.0	NA	38.0
TDS	8,196	6,300	7,890	6,500

	MH 34 (1991)	MH 34 (1995)	DRINKING WATER STANDARD
As	0.012	<0.005	0.050
Cd	<0.005	<0.004	0.010
Cr	0.030	0.020	0.050
Pb	<0.100	<0.050	0.050
Hg	0.0008	<0.001	0.002
Chloride	2,780	1,700	250
Total CN	0.440	0.220	0.200
WAD CN	NA	0.029	0.200
Nitrate	NA	31.0	10.0
TDS	8,296	6,700	2,000

Concentrations are in mg/l